Exploiting
Product Life-Cycle Support (PLCS)

NDLO

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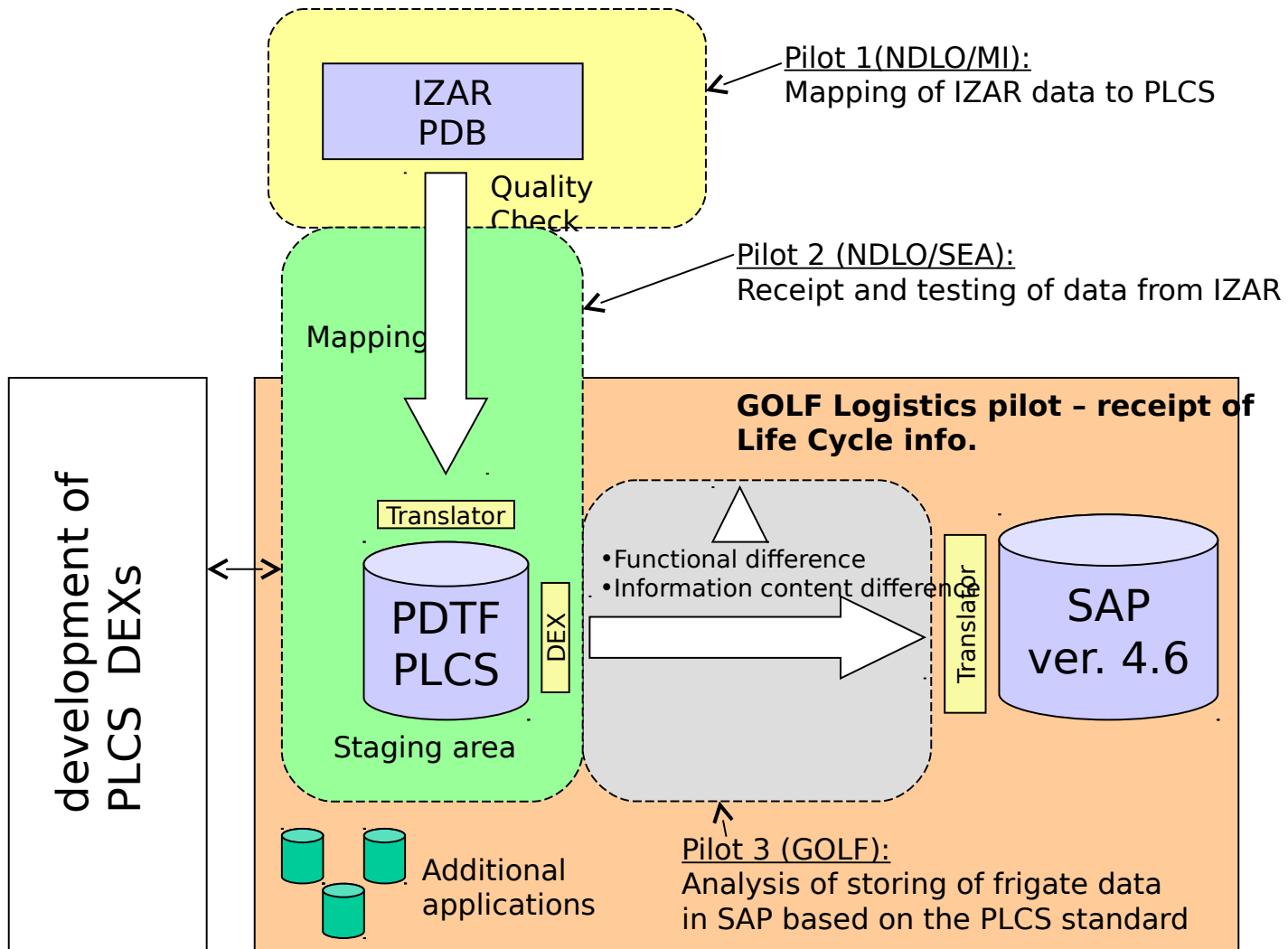**Norwegian Defence Logistics Organisation**

Policy statement (dec 2002)

NDLO's strategy is not for <u>one</u> standard but for <u>a set of compatible</u> standards to address the full scope of Integrated Logistic Support throughout the <u>entire lifecycle</u> of the product. The first focus is a standard for logistical information. The goal is to have a standard data model to be in place by 2006.

NDLO Pilots

Pilot 1(NDLO/MI):
Mapping of IZAR data to PLCS

IZAR PDB

Quality Check

Pilot 2 (NDLO/SEA):
Receipt and testing of data from IZAR

Mapping

GOLF Logistics pilot – receipt of Life Cycle info.

development of PLCS DEXs

Translator

PDTF PLCS

DEX

Staging area

- Functional difference
- Information content difference

Translator

SAP ver. 4.6

Additional applications

Pilot 3 (GOLF):
Analysis of storing of frigate data in SAP based on the PLCS standard

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NDLO Policy statement on PLCS, June 2004

- ISO 10303-239 (PLCS) is to be used for all external information exchange for the areas covered by the standard

- Applies to all new projects from July 2004
  - *On-going projects* to be considered on a case-by-case basis taking information quality, time and cost into consideration

- PLCS is a design parameter for the new ERP system provided by the GOLF program

ROI Case PLCS New Frigates
automatic import of data from PC to ERP

- Mapping from PC Legacy to PLCS
  - 400+ data entities in 30+ tables
- Exchange of P21 files from the PC to a PLCS repository
  - Express based full IS version of PLCS
- Data volume;
  - 11000+ Configuration Items
  - 20000+ Maintenance Tasks
  - 15000+ Spare Parts
  - 25000+ reference data
- Quality
  - Verify information integrity by applying rules
- Speed
  - First report in less than 1 hour
  - Full report within 4 hours
- Summary
  - The process of iterative checks gives us insight and influence on the data scope and the quality
  - The fault rate has dropped from 20 % to 4,3 % in the last data set and we are hoping for less than 2% errors in the data set.
  - This means that we can correct error or at least mark the faulty data prior to importing it to the ERP system used for in service support onboard and ashore.
  - The target i.e. the IMS has changed 3 times since the frigate contract was awarded in 2000.
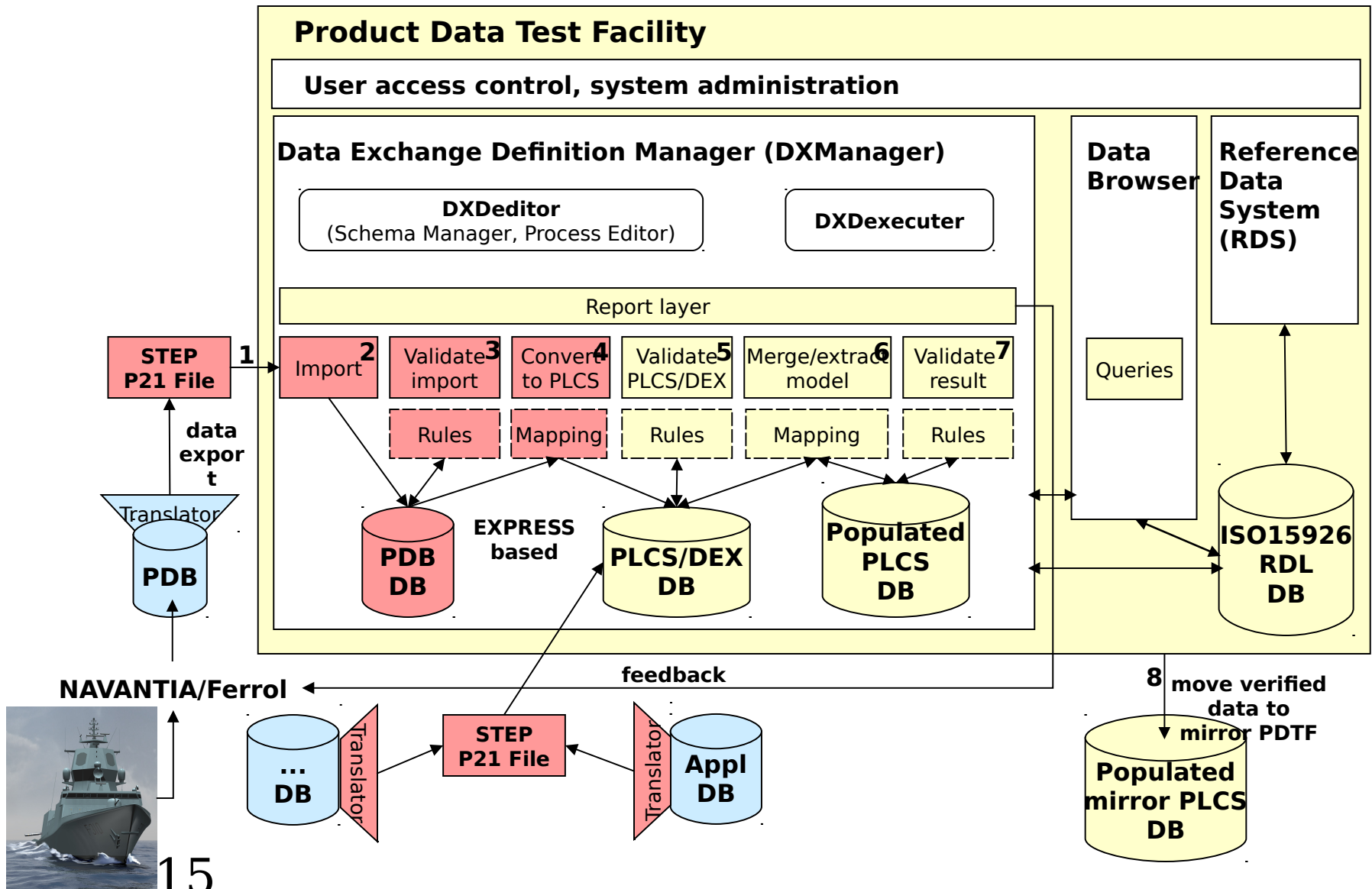
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- DEXs used for the Frigates are currently being implemented on a missile program.
  - After 4 DEXs there are 3 issues, all implemented.

- NFC to JSF JSF4I
  - Joint Strike Fighter International Information Interoperability Initiative
  - Information Resource Management -using PLCS and S1000D
  - DNV, KDA, CORENA, EPM
- Awaiting funding for a 4 year project to develop more DEXs and link PLCS to other standards, including:
  - S1000D, SCORM, 2000M,
- Pick up more of the 112 project that will deliver information to the NDLO IMS over the next 4-5 years

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Product Data Test Facility

User access control, system administration

Data Exchange Definition Manager (DXManager)

DXDeditor
(Schema Manager, Process Editor)

DXDexecuter

Report layer

1 STEP P21 File

2 Import

3 Validate import

4 Convert to PLCS

5 Validate PLCS/DEX

6 Merge/extract model

7 Validate result

Rules · Mapping · Rules · Mapping · Rules

Data Browser

Queries

Reference Data System (RDS)

data export

Translator

PDB

PDB DB

EXPRESS based

PLCS/DEX DB

Populated PLCS DB

ISO15926 RDL DB

NAVANTIA/Ferrol

feedback

... DB · Translator · **STEP P21 File** · Translator · **Appl DB**

8 move verified data to mirror PDTF

Populated mirror PLCS DB

15

Product data, tech pub and training
PLCS, S1000D and SCORM

- Current
  - Mil M 38784C (SGML) and S1000D (XML) are loosely coupled to the PLCS repository
- Plans short term -2006
  - Mil M 38784C and S1000D closer coupled to PLCS
  - Build 'bridge' between S1000D and PLCS
- Plans medium term-2007
  - Build 'bridge' between S1000D, PLCS and SCORM
- Plans long term 2007+
  - One common ILS repository covering all aspects through out the product life

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- ISO/ SC4
- OASIS
- CDIP Cooperation on Defence Implementations of PLCS
  - Sweden, United Kingdom and Norway
  - Ensure standard DEXs in the defence domain
  - Share the workload
- SIMBASE
- Cooperation NDLO – LOGSA
  - GEIA-927-1, Logistics Product Data
- National and international industry cooperation through various projects

Where to get more information

- www.oasis-open.org

- Several PLCS TC member companies offer training
  - Business overview 1-2 days
  - Technical walkthrough 2-3 days

- Email tai@sfk.mil.no
  Reports available upon request include:
  - NDLO requirements
  - Evaluation of NPDM and PLCS
  - Pilot 1 mapping from NAVANTIA legacy to PLCS
  - Pilot 2 PLCS repository
  - Pilot 3 Gap analysis PLCS - SAP 4.6

DC 15